iPASS IP10/20

ASK[EM] Format
Proximity Card Reader

IDTECK

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1. Important Safety Instructions

When using your ASK[EM] Format Proximity Reader, basic safety precautions should always be followed to reduce the risk of fire, electrical shock, and injury to persons. In addition, the following should also be followed:

1. Read and understand all instructions.
2. Follow all warnings and instructions marked on the product.
3. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning. If necessary, use mild soap.
4. Do not use this product near water, such as bath-tub, wash bowl, kitchen sink, laundry tub, in a wet basement, or swimming pool.
5. This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your installation site, consult your dealer or local power company.
6. Never push objects of any kind into this product or through the cabinet slots as they may touch voltage points or short out parts that could result in fire or electric shock. Never spill liquid of any kind on the product.
7. To reduce the risk of electric shock, do not disassemble this product by yourself, but take it to qualified service whenever service or repair is required. Opening or removing the covers may expose you to dangerous voltages or other risks. Also, incorrect reassembly can cause electric shock when the unit is subsequently used.
8. Unplug this product from the Direct Current (DC) power source and refer to qualified service personnel under these conditions:
   a. When the power supply cord or plug is damaged or frayed.
   b. If liquid has been spilled on the product.
   c. If the product does not operate normally after following the operating instructions in this manual. Adjust only those controls that are covered by the operating instructions in this manual. Improper adjustment of other controls that are not covered by this manual may damage the unit and will often require extensive work by a qualified technician to restore normal operation.
   d. If the product exhibits a distinct change in performance.

2. General

The iPASS IP10/20 Reader is an elegant looking reader which can be mounted to metal door frame (mullion) or any flat wall surface. The iPASS IP10/20 Reader uses an electronic module in epoxy potting that ensures successful operation even in harsh environments.
Two-color LED (green and red) and built-in beeper sound provides accurate and reliable system operations. There are two output formats of 26bit Wiegand output and ABA Track II Magstripe output available and the user can select the output format as they want.

3. Features

- 125KHz Proximity Card Reader
- ASK [EM] Format
- Read Range: Up to 4inch (10cm)
- User Format Available
- 26bit Wiegand (Default), ABA Track II and RS232 (Optional) Output Format
- Dual Reading Technology Reader (Active and Passive Cards)
- Easy to Install on Metal Door Frame or Mullion (IP10) and Wall Mount (IP20) Suitable
- External LED Control and External Buzzer Control
- Solid Epoxy Potted
- Waterproof (IP65 / IP66)
- Reverse Polarity Protection
- Options:
  Supervisory Signal

4. Identifying Supplied Parts

Please unpack and check the contents of the box.

Reader Module
(1ea)

iPASS IP10 / IP20 Bezel
(1ea)

User's Manual
(1copy)

5. Specification

Model	IP10	IP20
Read Range	IPK50: Up to 2 inch (5cm) IPC170 / IPC180: Up to 4 inch (10cm)	
Reading Time (Card)	30ms	
Power / Current	DC 12V / Max.150mA	
Input Port	2ea (External LED Control, External Buzzer Control)	
Output Format	26bit Wiegand (Default), RS232 and ABA Track II (Optional)	
LED Indicator	2 Color LED (Red and Green)	
Beeper	Piezo Buzzer	
Operating Temperature	-35° to +65°C (-31° to +149°F)	
Operating Humidity	10% to 90% relative humidity non-condensing	
Color / Material	Dark Pearl Gray / Polycarbonate	
Dimension	46mm x 122mm x 23mm	76mm x 124mm x 23.5mm

(W x H x T)	(1.82" x 4.81" x 0.87")	(3" x 4.89" x 0.87")
Weight	160g (0.35lbs)	185g (0.41lbs)
Warranty	Life time	
Index of Protection	IP65 / IP66	
Certification	UL, FCC, CE, MIC	

6. Check Points and Tip

- Recommended cable type and permissible length of cable

Description	Cable Specification	Maximum Distance
Reader (Power and Data) Reader -> ACU	Belden #9512, 22 AWG 4 conductor, shielded	150m
	Belden #9514, 22 AWG 8 conductor, shielded	

* Need thicker wire if you connect the reader with high current consumption.

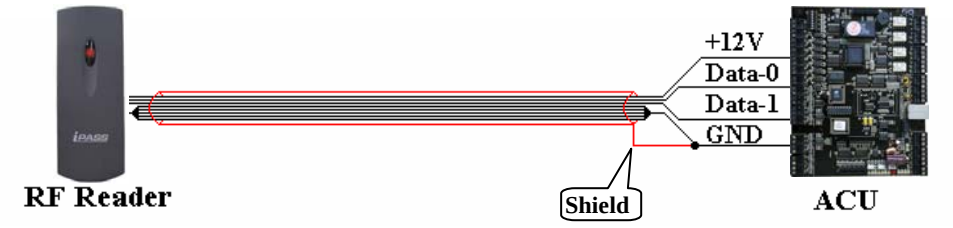
- Reader connection

  If you install the reader in a long distance between the ACU and the reader, you have to remind that there will be a voltage drop between both ends of GND wire. For example, if you connect a reader with 100mA current consumption at 100m distance (assume to using DC resistance of cable of 100Ω/100m) and the reader power is supplied from the ACU, the voltage drop of the GND wire will be 1V. In this case, the Wiegand data signal can not be measured lower than 1V.

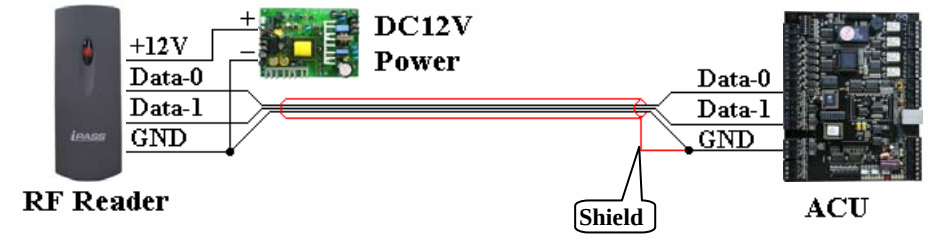
  The most of ACU is capturing the signal by the voltage level of data input and 1V is the critical point whether the ACU read the data logic "1" or logic "0" therefore the reader output can not be read correctly from the ACU.

  You have to think about how you reduce the voltage drop between both ends of GND wire. There will be two methods to reduce the voltage drop and ACU can read data correctly.

  - Reduce the DC resistance of GND wire; Using thick cable or add more wires to GND wire in parallel. If you connect 4 wires in parallel for GND, the DC resistance of GND wire will be reduced to 1/4 of single wire.
  - Use separate power for the reader; Disconnect +12V wire from the ACU and connect external power supply to the reader nearby then there will be no current flow through the GND wire and no voltage drop between both ends of GND wire.



< Reader connection using additional wires >



< Reader connection using external power supply >

7. Installation

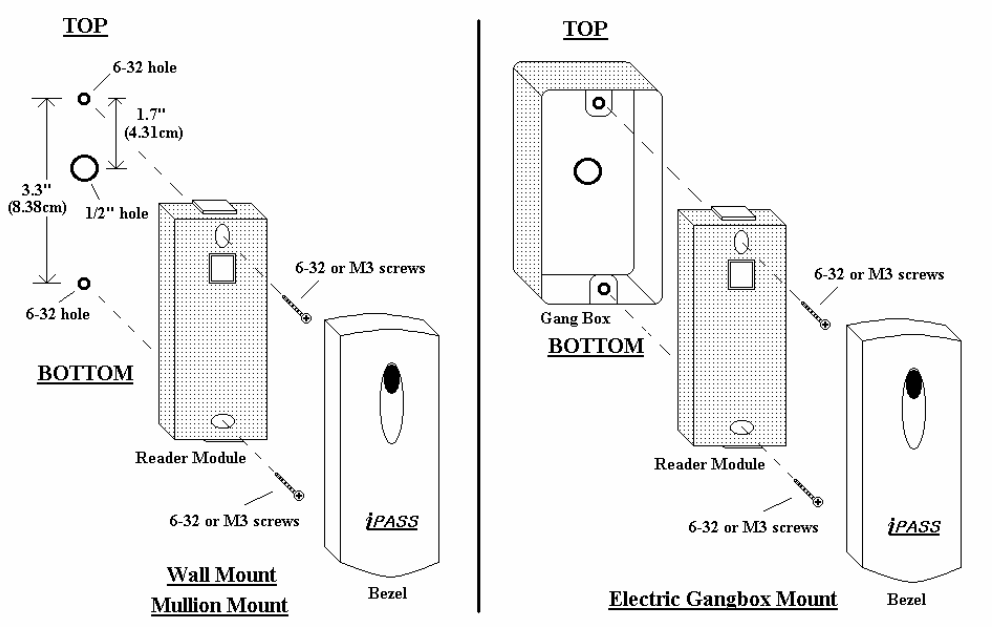
7-1. Mullion/Wall Mount

Drill two 6-32 or M3 holes 3.3"(8.38cm) apart in vertical and drill one 1/2" hole for the reader cable 1.7"(4.31cm) apart from the top hole.
(Skip this step, if you have installed an electric gang box.)

7-2. Put reader cable into the center hole and install the reader module by using two 6-32 or M3 screws (Not included).

7-3. Put bezel on to the reader module. Then push bezel until you hear the locking sound.

7-4. To detach the bezel, hold both sides of the bezel, push the bezel to the bottom, and pull the bezel forward.



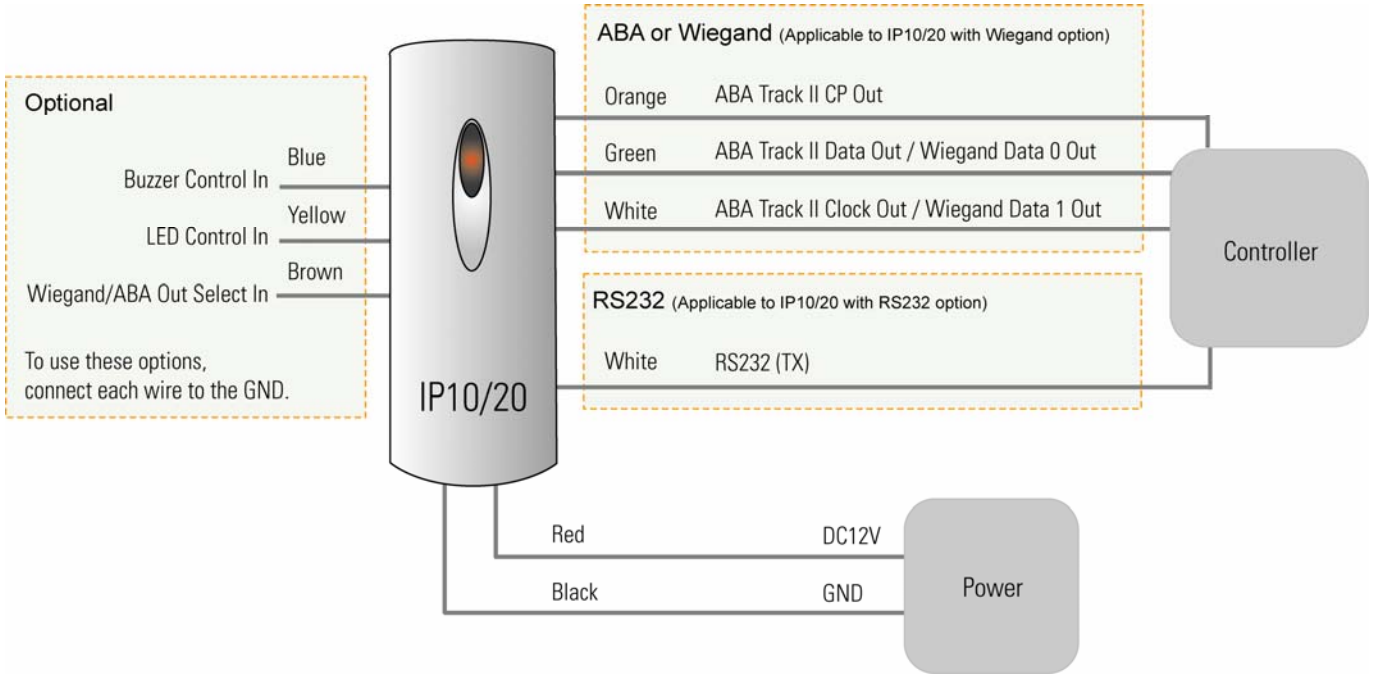
8. Wire Color Table of the Reader

SIGNAL	COLOR
Main Power (+12V)	Red
Power Ground (GND)	Black
Wiegand/ABA Track II Out Select In	Brown
ABA Track II CP Out	Orange
Wiegand Data 0 Out / ABA Track II Data Out	Green
Wiegand Version: Wiegand Data 1 Out / ABA Track II Clock Out	White
RS232 Version (Optional): RS232 (TX)	
Buzzer Control In	Blue
LED Control In	Yellow

* Please cut the connector off the end of the cable before installation.

* Brown, Orange and Green wires are not used for RS232 version of IP10/20.

9. Wire Connection to Controller



10. Operation

10-1. Once the power is applied, three beeping sounds can be heard and the LED toggles the color to red-green-red indicating that the reader is in standby mode after a successful initialization and diagnostics

10-2. Present proximity card to the reader until you hear a beep sound. The LED is changing the color to Green simultaneously and sends the RF card data to the controller. Afterwards the LED changes the color to red again for the next reading.

10-3. LED Control:

To change the LED colors, you may connect the LED Control Input (Yellow wire) to power ground. The green LED is indicating that the reader is in standby mode. Present proximity card. The LED changes the color to red simultaneously, then to green again for the next reading.

10-4. Buzzer Control:

When the reader reads the proximity card, one beep sound generates in normal operation mode, but you can generate more beep sounds to distinguish whether the access is granted or denied.

To generate more beeps, you may control the Buzzer Control Input (Blue wire) to power ground.

Afterwards you can turn the beeper on, while holding the Buzzer Control Input to power ground.

10-5. Wiegand/ABA Track II Output Format Select:

When you remain open circuit of Wiegand/ABA select input (Brown wire) then the reader will generate 26bit Wiegand output. When you want ABA Track II Magstripe output then connect Wiegand/ABA select input (Brown wire) to system ground level (connect this wire to Black wire) then the reader will generate ABA Track II output. After you select output format, preferred output format will be selected after the power on reset. Both 26bit Wiegand and ABA Track II Magstripe outputs are all pulled up to +5V DC by 1K ohm pull-up resistors.

11. FCC Registration Information

FCC REQUIREMENTS PART 15

Caution: Any changes or modifications in construction of this device which are not expressly approved by the responsible for compliance could void the user's authority to operate the equipment.

NOTE: This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions;
1. This device may not cause harmful interface, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A Digital Device, pursuant to Part 15 of the FCC Rules. These limits are designed to this equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the radio or television off and on, the user is encouraged to try to correct interference by one or more of the following measures.

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on another circuit.
4. Consult the dealer or an experienced radio/TV technician for help.

12. Warranty Policy and Limitation of Liability

IDTECK warrants this product against defects in material and workmanship for the period specified below from the date of purchase under normal customer use. This Warranty doesn't apply: 1) to any product which has been dismantled without authorization of IDTECK or/and has a damaged or detached QC label on its back side; 2) to any losses, defects, or damages caused by improper testing, operation, installation, maintenance, modification, alteration, or adjustment; 3) to any product with a damaged or faded serial number on it; or 4) to any losses, defects, or damages caused by lightning or other electrical discharge, natural disaster, misuse, accident or neglect.

This Limited Warranty is in lieu of all other warranties, obligations, or liabilities on the part of IDTECK, and IDTECK DISCLAIMS ANY AND ALL WARRANTY, WHETHER EXPRESS OR IMPLIED, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.IDTECK does not, and cannot, know who is present, what property is located, where this product will be used; it would be extremely difficult to determine the actual damages that may result from a failure of the product to perform as anticipated; and the low price of this product is based upon the nature of the product provided and the limited liability that IDTECK assumes. IDTECK IS NOT RESPONSIBLE FOR ANY PERSONAL INJURY, PROPERTY DAMAGE OR LOSS, DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR OTHER LOSS, AND IDTECK'S MAXIMUM LIABILITY SHALL NOT IN ANY CASE EXCEED THE PURCHASE PRICE OF THE PRODUCT.

To obtain repair or replacement under the terms of this warranty, visit IDTECK's Website (http://www.idteck.com) and place an online RMA request. After an RMA code is issued, return the product along with the authorization RMA code.

>> Warranty Period

	Item	Warranty Period
1	RF READER / FINGERPRINT READER	2 years
2	RF CARD (Active type)	
3	STANDALONE CONTROLLER	
4	CONTROL PANEL	
5	FINGERPRINT CONTROLLER	
6	MOLDED RF READER (RF10, RF20, RF30, RF TINY, IP10, IP20, IP30, SR10E, SR10UE, SR10SE, SR10RWE, SR10BE)	Lifetime
7	RF CARD (Passive type) (IDC80, IDC170, IDK50, IMC125, LXK50, IPC80, IPC170, IPK50, ISC80, ISC80S, ISK50, IMC135, IHC80, IP100, IP200)	

RMA REQUEST FORM

IDTECK accepts only on-line RMA requests on our Website (www.idteck.com). Please provide us with basic information in the below form so that we can understand your problems better. Send us back this form with your products after an RMA code is issued on our Website. This form is not compulsory.

Authorization RMA Code :	
1. Company Name	
2. Model Name	
3. Serial No.	
4. Original Invoice No.	
5. Distributor	
6. Purchasing Date	
7. RMA Request Date	

Please check your problems.

□ Card Reading	□ Power	□ Keypad
□ Communication	□ Relay	□ LCD
□ LED & Buzzer	□ Registration	
□ Others :		

IDTECK RMA Center >>

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e-Training Center: www.idtecktraining.com

The specifications contained in this manual are subject to change without notice at any time.

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